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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/709,187	11/10/2000 A	David Raccah	ZAM-0001	4972

7590 12/02/2003

PATENT DEPARTMENT- Barry Young
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EXAMINER

QURESHI, SHABANA

ART UNIT	PAPER NUMBER
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2155

DATE MAILED: 12/02/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/709,187

Applicant(s)

RACCAH ET AL.

Examiner

Shabana Qureshi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claims 1-20 are pending in this Office Action, in response to Application 09/709,187 filed November 11, 2000.

Information Disclosure Statement

The IDS filed in Paper No. 7 and 12 have been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,298,451 131 issued to Lin. With respect to claim 1, Lin teaches a storage system, comprising: a plurality of system servers connected to one another by a communication network having at least one node (Fig. 2), each system server including at least one process that provides a storage system function independent of the states of other system servers in response to a request to the storage system (Fig. 2, 3A; col. 2, line 55- col. 3, line 3), and providing server location and

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feature information to a directory server when the system server is initialized (col. 3, lines 36-41).

With respect to claim 2, Lin teaches the storage system of claim 1, wherein: the storage system functions are selected from the group consisting of: accessing files stored in the storage system (Fig. 2, 3A, 313; col. 2, line 55- col. 3, line 3; col. 5, lines 2230), accessing metadata for files stored in the storage system (Fig. 2, 3A, 3C; col. 5, lines 7-22), and serving as a gateway for external client processes that generate requests for the storage system (Fig. 2, 3A, 3C; col. 4, line 63- col. 5, line 11).

With respect to claim 3, Lin teaches the storage system of claim 1, further including: the system servers are arranged into multiple services, the system servers of each service providing system storage functions unique to that service (Fig. 2, 3A-3C; col. 2, line 55- col. 3, line 3).

With respect to claim 4, Lin teaches the storage system of claim 3, wherein: at least one service comprises a storage server service that includes a plurality of storage servers, each storage server including a process that accesses files stored in the storage system independent of the files accessed by other storage servers (Fig. 2, 3A3C; col. 2, line 55- col. 3, line 3; col. 4, lines 32-37; col. 6, lines 40-44).

With respect to claim 5, Lin teaches the storage system of claim 4, wherein: at least one service further comprises a metadata service [interpreted as service defining task and locating server to perform task] that includes a plurality of metadata servers, each metadata server including a process that accesses a set of metadata independent of the metadata sets accessed by other metadata servers (Fig. 2, 3A, 3C; col. 3, lines 62-67; col. 4, lines 32-37; col. 5, lines 7-22; col. 6, lines 40-44).

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With respect to claim 6, Lin teaches the storage system of claim 3, further including: at least one server directory that includes location information and service capabilities of the system servers (Fig. 2, 3A-3C; col. 3, lines 36-41; col. 5, line 59- col. 6, line 2, 47-65), at least one server directory providing at least one server location in response to a request to the storage system (Fig. 2, 3A-3C; col. 3, lines 36-41; col. 5, line 59- col. 6, line 2, 47-65); and at least one service comprises a gateway service that includes a plurality of gateway servers, each gateway server hosting at least one client process that can process client requests and pass the resulting set of requests to the storage system and including a process that may access at least one server directory to determine the location of a system server that can service a generated client request (Fig. 2, 3A-3C; col. 4, lines 32-37, 63- col. 5, line 30; col. 6, lines 40-54).

With respect to claim 7, Lin teaches the storage system of claim 1, further including: a routing request server that provides system server location information in response to a request to the storage system, the location information corresponding to a system server that is capable of servicing the request (Fig. 2, 3A-3C; col. 3, lines 36-41; col. 4, line 63- col. 5, line 11, 59- col. 6, line 2, 47-65).

With respect to claim 15, Lin teaches a method of operating a storage system having a plurality of servers, comprising the steps of: as a server is initialized, registering server location and features with a server directory (col. 3, lines 36-41); accessing the server directory to locate a server capable of performing a request (Fig. 2, 3A, 3C; col. 4, line 63- col. 5, line 11); and accessing a server according to server directory information to service a type of request (Fig. 2, 3A, 3C; col. 5, lines 7-22); and servicing the request with a server that operates independently of other servers that services the same type of request (Fig. 2, 3A-3C; col. 5, lines 10-17, 22-30).

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With respect to claim 16, Lin teaches the method of claim 15, wherein: the step of accessing a server includes accessing a metadata server that has access to metadata to service requests related to metadata of stored files (Fig. 2, 3A, 3C; col. 3, lines 62-67; col. 4, lines 32-37; col. 5, lines 7-22; col. 6, lines 40-44), and accessing a storage server that has access to files to service file related requests, the storage server having no access to the metadata of stored files (Fig. 2, 3A-3C; col. 4, lines 32-37; col. 6, lines 40-44; col. 7, lines 1-13).

With respect to claim 17, Lin teaches the method of claim 15, further including: registering a new server in response to a change in the load in the existing servers (Fig. 3B-3C; col. 5, line 50- col. 6, line 39).

With respect to claim 18, Lin teaches the method of claim 15, further including: registering a stand-by server in response to a failed server, the stand-by server having at least some of the capabilities of the failed server (Fig. 3B-3C; col. 3, lines 28-35; col. 5, line 50- col. 6, line 39).

With respect to claim 19, Lin teaches the method of claim 15, further including: providing status information of a server to the server directory (col. 3, lines 38-41; col. 5, lines 7-17, 59- col. 6, line 3, 23-28).

With respect to claim 20, Lin teaches the method of claim 19, wherein: the status information includes the load on the server (col. 3, lines 28-41; col. 5, lines 7-17, 59-66).

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,564,252 131 issued to Hickman et al. ("Hickman").

With respect to claim 8, Hickman teaches a storage system, comprising: a plurality of servers arranged into at least two services each service providing different storage system functions independent of the status of any other service (Fig. 3, 10; col. 5, line 45- col. 6, line 5), and the servers of each service being functionally de-coupled from one another (Fig. 3), servicing requests independent of the operation of other servers of the service (Fig. 3; col. 5, line 45- col. 6, line 5); and a server directory process that receives information for a storage system request and provides information to locate a server capable of servicing the request (Fig. 10; col. 6, lines 17-22, 55- col. 7, line 15; col. 12, lines 4-10).

With respect to claim 9, Hickman teaches the storage system of claim 8, wherein: the plurality of servers are arranged into a metadata service that provides access to metadata for files stored in the storage system (Fig. 3, 4, 5, 10; col. 5, lines 45-56; col. 6, line 55- col. 7, line 21); and a storage server service that provides access to files stored in the storage system (Fig. 3, 6, 10; col. 5, line 60- col. 6, line 5; col. 7, lines 46-50).

With respect to claim 10, Hickman teaches the storage system of claim 9, wherein: the metadata service comprises a plurality of metadata servers, each metadata server including an initialize function that may provide metadata server location and metadata server capability information to a server directory (Fig. 3, 4, 5, 10; col. 5, lines 45-56; col. 6, line 55- col. 7, line 21).

With respect to claim 11, Hickman teaches the storage system of claim 10, wherein: the metadata server capability information includes a quality of service value (col. 10, lines 37-54).

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With respect to claim 12, Hickman teaches the storage system of claim 9, wherein: the storage server service comprises a plurality of storage servers, each storage server including an initialize function that may provide server location and server capability information to a server directory (Fig. 3, 6; col. 5, line 60- col. 6, line 5; col. 7, lines 5-8, 46-50).

With respect to claim 13, Hickman teaches the storage system of claim 12, wherein: the storage server capability information includes a set of files accessible by the storage server (Fig. 7; col. 7, line 60- col. 8, line 7).

With respect to claim 14, Hickman teaches the storage system of claim 8, further including: a plurality of gateway servers, each gateway server including a process that can access the server directory process to determine a location of a server capable of servicing a request and then access the server at the location to service the request (Fig. 3, 4, 5, 10; col. 5, lines 45-56).

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,978,577 issued to Rierden et al.

US Patent No. 6,279,040 131 issued to Ma et al.

US Patent No. 6,349,357 B1 issued to Chong, Jr.

US Patent No. 6,523,130 B1 issued to Hickman et al.

US Patent No. 6,542,951 131 issued to Sangveraphunski et al.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shabana Qureshi whose telephone number is (703) 308-6118.


The examiner can normally be reached on Monday - Friday, 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (703) 308-6662. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Shabana Qureshi
Examiner
Art Unit 2155

SQ
November 26, 2003


HOSAIN ALAM
SUPERVISORY PATENT EXAMINER